



EPA Region 5 Records Ctr.



351578

MEMORANDUM

TO: Ralph Dollhopf, On-Scene Coordinator
United States Environmental Protection Agency
9311 Groh Road, Room 316
Grosse Isle, Michigan 48138-1697

Deborah Orr, Remedial Project Manager
United States Environmental Protection Agency
77 W. Jackson Boulevard (SE-4J)
Chicago, Illinois 60606-3590

FROM: Scott Lockhart, P.E. 
Project Manager

DATE: March 9, 1999

RE: Toledo Tie Treatment Site, Monthly Project Report
KMC001.100.0049

The following summary is prepared pursuant to Section V, Item 3.5, of the Unilateral Administrative Order (UAO) issued to Kerr McGee Chemical, LLC (KMC) on December 24, 1997.

WORK PERIOD:

February 1, 1999 to February 28, 1999

SIGNIFICANT DEVELOPMENTS:

1. Sampling and analysis of stockpiled materials for the purpose of determining waste characterization.
2. Removal of sediment and clay dams to the end of the work area was completed on February 17.
3. Additional seepage along banks of Williams Ditch behind the RADCO building became apparent after removal of sediment.
4. Eight soil borings installed using Geoprobe™ along northwest bank of Williams Ditch.
5. City of Toledo halts further work in the right-of-way of Frenchmens Road.
6. Meetings with the City of Toledo on February 9 and February 17 regarding implementation of engineering controls.
7. On-going dialogue with the U.S. EPA regarding the management of stockpiled materials.

PROBLEMS:

1. Previously unknown seepage of suspected creosote was discovered upon removal of sediment from Williams Ditch. Additional soil borings using a Geoprobe™ were installed along the northwest side of Williams Ditch to evaluate the extent of seeps and one test pit was excavated south of Williams Ditch – approximately 20 feet west of the RADCO building.
2. City of Toledo halts further work within the right-of-way of Frenchmens Road. This created an interruption to the schedule for excavation. This problem was resolved in a timely manner by processing additional paperwork through the City of Toledo.

ANALYTICAL DATA:

1. Analytical data for the samples from the water treatment system are attached.
2. Analytical data for the stockpile material are attached.

CORRESPONDENCE:

1. Weekly reports from KMC to US EPA documenting site activities. The reports were dated February 4, 12, 18, and 25, 1999.
2. Follow up correspondence to U.S. EPA regarding issues discussed in January 26, 1999, meeting in Grosse Ile, Michigan. The letters were dated February 9, 12, and 15.
3. Follow up correspondence with the Ohio Department of Health regarding site air sampling was dated February 5, 1999.
4. Conference calls with U.S. EPA on February 16, 1999.

ANTICIPATED ACTIVITIES NEXT PERIOD:

1. Continued excavation of material from within Frenchmens Road right-of-way.
2. Installation of perimeter geomembrane and backfill.
3. Procurement of sewer rehabilitation contractor to complete sewer sliplining.
4. Disposal of questionable pile material.
5. Waterline installation.

ct: A. Keith Watson, Project Manager, Kerr-McGee
W. O. Green III, Esq., Kerr-McGee
Chris Schraff, Esq., Porter, Wright, Morris & Arthur
Micheal McClary, Associate Regional Counsel
Peter Goetz, Project Coordinator, Kerr-McGee
Cedric Gibson, Ecology and Environment, Inc.

**Kerr-Mcgee Chemical, LLC
Toledo Tie Treatment Site
Time Critical Removal**

Summary of Water Treatment System Chemicals of Concern Analytical Results

ANALYTE NAME	METHOD	UNITS	OHIO EPA SURFACE WATER DISCHARGE STANDARD OUTSIDE MIXING ZONE MAXIMUM FOR WARMWATER HABITATS	KMC001-BKGD-101398-T348 COLLECTION DATE: 10/13/98 Williams Ditch Water Sample		KMC001-Influent 1-1110998-T340 COLLECTION DATE: 11/09/98 Influent Sample	
				RESULT	MDL	RESULT	MDL
pH	SM18-4500	Std.	6.5-9.0	7.19+	1	7.56	N/A
OIL & GREASE	EPA 1664	mg/L	10	392	5	126	5
PHOSPHORUS	SM18 4500B5E	mg/L	1*	4.79	0.04	0.96	0.04

PRIORITY POLLUTANT VOLATILES

BENZENE	EPA624/8240	ug/L	1100	500	40	110	40
ETHYLBENZENE	EPA624/8240	ug/L	1400	460	40	47	40
TOLUENE	EPA624/8240	ug/L	2400	950	40	120	40

PRIORITY POLLUTANT BASE/NEUTRALS

ACENAPHTHENE	EPA 625/8270	ug/L	67	600	150	260	26
FLUORANTHENE	EPA 625/8270	ug/L	200	970	150	540	26
NAPHTHALENE	EPA 625/8270	ug/L	160	7300	260	1500	220

** Although the pH measured at the carbon filter was above the Ohio EPA Standard, the pH of both effluent pools did meet the standard. As a result, IT Group continued to monitor the pH of the effluent pools to insure that the pH of the discharge met the Ohio EPA Standard.

* Standard determined assuming an average water hardness of 200 mg/l.

+ pH result is based on laboratory measurements. Unless otherwise indicated, all other pH measurements were taken in the field.

Indicates exceedances of the Ohio EPA Standard

**Kerr-Mcgee Chemical, LLC
Toledo Tie Treatment Site
Time Critical Removal**

Summary of Water Treatment System Chemicals of Concern Analytical Results

ANALYTE NAME	METHOD	UNITS	OHIO EPA SURFACE WATER DISCHARGE STANDARD OUTSIDE MIXING ZONE MAXIMUM FOR WARMWATER HABITATS	KMC001-EFF1-102998-T348 COLLECTION DATE: 10/29/98 Batch Treatment Effluent Sample		KMC001-Effluent 2-110698-T340 COLLECTION DATE: 11/06/98 Continuous Discharge Effluent Sample	
				RESULT	MDL	RESULT	MDL
pH	SM18-4500	Std.	6.5-9.0	8.98+	1	7.76	N/A
OIL & GREASE	EPA 1664	mg/L	10	Not detect	5	Not detect	5
PHOSPHORUS	SM18 4500B5E	mg/L	1*	0.36	0.04	0.17	0.04

PRIORITY POLLUTANT VOLATILES

BENZENE	EPA624/8240	ug/L	1100	Not detect	1	Not detect	1
ETHYL.BENZENE	EPA624/8240	ug/L	1400	Not detect	1	Not detect	1
TOLUENE	EPA624/8240	ug/L	2400	Not detect	1	Not detect	1

PRIORITY POLLUTANT BASE/NEUTRALS

ACENAPHTHENE	EPA 625/8270	ug/L	67	Not detect	3	3.8	3
FLUORANTHENE	EPA 625/8270	ug/L	200	Not detect	3	30	3
NAPHTHALENE	EPA 625/8270	ug/L	160	Not detect	6	Not detect	6

** Although the pH measured at the carbon filter was above the Ohio EPA Standard, the pH of both effluent pools did meet the standard. As a result, IT Group continued to monitor the pH of the effluent pools to insure that the pH of the discharge met the Ohio EPA Standard.

* Standard determined assuming an average water hardness of 200 mg/l.

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**Kerr-Mcgee Chemical, LLC
Toledo Tie Treatment Site
Time Critical Removal**

Summary of Water Treatment System Chemicals of Concern Analytical Results

ANALYTE NAME	METHOD	UNITS	OHIO EPA SURFACE WATER DISCHARGE STANDARD OUTSIDE MIXING ZONE MAXIMUM FOR WARMWATER HABITATS	KMC001-Effluent 3-110998-T340 COLLECTION DATE: 11/09/98 Continuous Discharge Effluent Sample		KMC001-Effluent 4-120198-T340 COLLECTION DATE: 12/01/98 Continuous Discharge Effluent Sample	
				RESULT	MDL	RESULT	MDL
pH	SM18-4500	Std.	6.5-9.0	8.66	N/A	8.12	N/A
OIL & GREASE	EPA 1664	mg/L	10	Not detect	5	Not detect	5
PHOSPHORUS	SM18 4500B5E	mg/L	1*	0.23	0.04	0.37	0.04

PRIORITY POLLUTANT VOLATILES

BENZENE	EPA624/8240	ug/L	1100	Not detect	1	Not detect	1
ETHYLBENZENE	EPA624/8240	ug/L	1400	Not detect	1	Not detect	1
TOLUENE	EPA624/8240	ug/L	2400	Not detect	1	Not detect	1

PRIORITY POLLUTANT BASE/NEUTRALS

ACENAPHTHENE	EPA 625/8270	ug/L	67	Not detect	3	<2 (trace)	2
FLUORANTHENE	EPA 625/8270	ug/L	200	10	3	23	2
NAPHTHALENE	EPA 625/8270	ug/L	160	Not detect	6	Not detect	2

** Although the pH measured at the carbon filter was above the Ohio EPA Standard, the pH of both effluent pools did meet the standard. As a result, IT Group continued to monitor the pH of the effluent pools to insure that the pH of the discharge met the Ohio EPA Standard.

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+ pH result is based on laboratory measurements. Unless otherwise indicated, all other pH measurements were taken in the field.

Indicates exceedances of the Ohio EPA Standard.

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Summary of Water Treatment System Chemicals of Concern Analytical Results

ANALYTE NAME	METHOD	UNITS	OHIO EPA SURFACE WATER DISCHARGE STANDARD OUTSIDE MIXING ZONE MAXIMUM FOR WARMWATER HABITATS	KMC001-Effluent 5-121698-T400 COLLECTION DATE: 12/16/98 Continuous Discharge Effluent Sample		KMC001-Effluent6-122398-T400 COLLECTION DATE: 12/23/98 Continuous Discharge Effluent Sample	
				RESULT	MDL	RESULT	MDL
pH	SM18-4500	Std.	6.5-9.0	7.82	1	8.25	1
OIL & GREASE	EPA 1664	mg/L	10	Not detect	5	Not detect	5
PHOSPHORUS	SM18 4500B5E	mg/L	1*	0.24	0.04	0.16	0.04

PRIORITY POLLUTANT VOLATILES

BENZENE	EPA624/8240	ug/L	1100	Not detect	1	Not detect	1
ETHYLBENZENE	EPA624/8240	ug/L	1400	Not detect	1	Not detect	1
TOLUENE	EPA624/8240	ug/L	2400	Not detect	1	Not detect	1

PRIORITY POLLUTANT BASE/NEUTRALS

ACENAPHTHENE	EPA 625/8270	ug/L	67	44	3	12	9
FLUORANTHENE	EPA 625/8270	ug/L	200	180	7	61	9
NAPHTHALENE	EPA 625/8270	ug/L	160	Not detect	3	Not detect	9

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Indicates exceedances of the Ohio EPA Standard

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Summary of Water Treatment System Chemicals of Concern Analytical Results

ANALYTE NAME	METHOD	UNITS	OHIO EPA SURFACE WATER DISCHARGE STANDARD OUTSIDE MIXING ZONE MAXIMUM FOR WARMWATER HABITATS	KMC001-Effluent7-011899-T340 COLLECTION DATE: 1/18/99		KMC001-Effluent8-012599-1340 COLLECTION DATE: 1/25/99	
				Continuous Discharge Effluent Sample		Continuous Discharge Effluent Sample	
				RESULT	MDL	RESULT	MDL
pH	SM18-4500	Std.	6.5-9.0	9.02**	1	8.78	1
OIL & GREASE	EPA 1664	mg/L	10	Not detect	5	Not detect	5
PHOSPHORUS	SM18 4500B5E	mg/L	1*	0.33	0.04	0.14	0.04

PRIORITY POLLUTANT VOLATILES

BENZENE	EPA624/8240	ug/L	1100	Not detect	1	190	20
ETHYLBENZENE	EPA624/8240	ug/L	1400	Not detect	1	77	20
TOLUENE	EPA624/8240	ug/L	2400	Not detect	1	230	20

PRIORITY POLLUTANT BASE/NEUTRALS

ACENAPHTHENE	EPA 625/8270	ug/L	67	10	2	150	2
FLUORANTHENE	EPA 625/8270	ug/L	200	19	2	31	2
NAPHTHALENE	EPA 625/8270	ug/L	160	Not detect	2	1500	100

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+ pH result is based on laboratory measurements. Unless otherwise indicated, all other pH measurements were taken in the field.

Indicates exceedances of the Ohio EPA Standard

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Toledo Tie Treatment Site
Time Critical Removal**

Summary of Water Treatment System Chemicals of Concern Analytical Results

ANALYTE NAME	METHOD	UNITS	OHIO EPA SURFACE WATER DISCHARGE STANDARD OUTSIDE MIXING ZONE MAXIMUM FOR WARMWATER HABITATS	KMC001-Effluent9-020199-T340 COLLECTION DATE: 2/1/99 Continuous Discharge Effluent Sample		KMC001-Influent 2-020199-T340 COLLECTION DATE: 2/1/99 Continuous Discharge Influent Sample	
				RESULT	MDL	RESULT	MDL
pH	SM18-4500	Std.	6.5-9.0		1		1
OIL & GREASE	EPA 1664	mg/L	10	Not detect	5	Not detect	5
PHOSPHORUS	SM18 4500B5E	mg/L	1*	0.14	0.04	0.2	0.04

PRIORITY POLLUTANT VOLATILES

BENZENE	EPA624/8240	ug/L	1100	Not detect	1	370	40
ETHYLBENZENE	EPA624/8240	ug/L	1400	Not detect	1	110	40
TOLUENE	EPA624/8240	ug/L	2400	Not detect	1	390	40

PRIORITY POLLUTANT BASE/NEUTRALS

ACENAPHTHENE	EPA 625/8270	ug/L	67	Not detect	2	200	4
FLUORANTHENE	EPA 625/8270	ug/L	200	4.4	2	47	4
NAPHTHALENE	EPA 625/8270	ug/L	160	<2 (trace)	2	4200	110

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Time Critical Removal**

Summary of Water Treatment System Chemicals of Concern Analytical Results

ANALYTE NAME	METHOD	UNITS	OHIO EPA SURFACE WATER DISCHARGE STANDARD OUTSIDE MIXING ZONE MAXIMUM FOR WARMWATER HABITATS	KMC001-Effluent10-020899-T340 COLLECTION DATE: 2/8/99 Continuous Discharge Effluent Sample	
				RESULT	MDL
pH	SM18-4500	Std.	6.5-9.0		1
OIL & GREASE	EPA 1664	mg/L	10	Not detect	5
PHOSPHORUS	SM18 4500B5E	mg/L	1*	0.11	0.04

PRIORITY POLLUTANT VOLATILES

BENZENE	EPA624/8240	ug/L	1100	Not detect	1
ETHYLBENZENE	EPA624/8240	ug/L	1400	Not detect	1
TOLUENE	EPA624/8240	ug/L	2400	Not detect	1

PRIORITY POLLUTANT BASE/NEUTRALS

ACENAPHTHENE	EPA 625/8270	ug/L	67	Not detect	2
FLUORANTHENE	EPA 625/8270	ug/L	200	4.5	2
NAPHTHALENE	EPA 625/8270	ug/L	160	Not detect	2

** Although the pH measured at the carbon filter was above the Ohio EPA Standard, the pH of both effluent pools did meet the standard. As a result,

IT Group continued to monitor the pH of the effluent pools to insure that the pH of the discharge met the Ohio EPA Standard

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Indicates exceedances of the Ohio EPA Standard



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 19, 1999

To: Hull & Associates
3401 Glendale Ave., Suite 300
Toledo, Ohio 43614
ATTN: Mr. Bill Petruzzi

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AD10562	Location code: HULLKMC
Project account code: 196	
Location Description: KMC001-CP-001-392T	
Sample collector: CLIENT	Sample collection date: 02/16/99
Lab submittal date: 02/16/99	Time: 15:01
Received by: RS	Validated by: FD

Parameter: pH @ 25 DEG C. 20g+20ml @ 60 min	
Method reference: EPA9045	
Result: 7.58 Std.	MDL or sensitivity: 1.00
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: CYANIDE	Unit: mg/kg
Method reference: 4500-C/335.3	MDL or sensitivity: 1.0
Result: Not detected	Date finished: 02/17/99
Date started: 02/17/99	Analyst: JC
Time started:	

Parameter: IGNITABILITY	Unit:
Method reference: 40CFR261.21	MDL or sensitivity:
Result: See comment	Date finished: 02/17/99
Date started: 02/17/99	Analyst: JC
Time started:	

Parameter: SULFIDE. REACTIVE	Unit: mg H2S/kg
Method reference: SW846IC77342	MDL or sensitivity: 50
Result: Not detected	Date finished: 02/18/99
Date started: 02/18/99	Analyst: CF
Time started:	

Parameter: PCB IN RESIDUE	Unit: mg/kg
Method reference: SW846 8080	
Result: see below	
Date started: 02/16/99	Date finished: 02/17/99
Time started:	Analyst: JR

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Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/16/99 Date finished: 02/17/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/16/99 Date finished: 02/17/99
Time started: Analyst: PL

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: JH

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/17/99 Date finished: 02/17/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: TH

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.3	0.2

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Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROBENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROBENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROBENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
γ-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROBENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04
2,4,5-TRICHLOROPHENOL	Not detected	0.4
2,4,6-TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.197	
0.267 mg/L 2-Fluorophenol	0.229	
0.267 mg/L Nitrobenzene-D5	0.243	
0.267 mg/L Phenol-D6	0.213	

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Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
0.267 mg/L Terphenyl-D14	0.252	
0.267 mg/L 2,4,6-Tribromophenol	0.107	

Data for TCLP HERBICIDES mg/L:

Component Name	Result	Component MDL
2,4-D	Not detected	0.10
2,4,5-TP (SILVEX)	Not detected	0.02

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 19, 1999

To: Hull & Associates
3401 Glendale Ave.. Suite 300
Toledo, Ohio 43614
ATTN: Mr. Bill Petruzzi

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AD10563	Location code: HULLKMC
Project account code: 196	
Location Description: KMC001-CP-002-392T	
Sample collector: CLIENT	Sample collection date: 02/16/99
Lab submittal date: 02/16/99	Time: 15:01
Received by: RS	Validated by: FD

Parameter: pH @ 25 DEG C. 20g+20ml @ 60 min	
Method reference: EPA9045	
Result: 7.65 Std.	MDL or sensitivity: 1.00
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: CYANIDE	
Method reference: 4500-C/335.3	Unit: mg/kg
Result: Not detected	MDL or sensitivity: 1.0
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: IGNITABILITY	
Method reference: 40CFR261.21	Unit:
Result: See comment	MDL or sensitivity:
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: SULFIDE. REACTIVE	
Method reference: SW846IC77342	Unit: mg H2S/kg
Result: Not detected	MDL or sensitivity: 50
Date started: 02/18/99	Date finished: 02/18/99
Time started:	Analyst: CF

Parameter: PCB IN RESIDUE	
Method reference: SW846 8080	Unit: mg/kg
Result: see below	
Date started: 02/16/99	Date finished: 02/17/99
Time started:	Analyst: JR

February 19, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/16/99 Date finished: 02/17/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/16/99 Date finished: 02/17/99
Time started: Analyst: PL

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: JH

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/17/99 Date finished: 02/17/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: TH

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.3	0.2

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Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROBENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROBENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROBENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
g-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROBENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04
2,4,5-TRICHLOROPHENOL	Not detected	0.4
2,4,6-TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.166	
0.267 mg/L 2-Fluorophenol	0.232	
0.267 mg/L Nitrobenzene-D5	0.261	
0.267 mg/L Phenol-D6	0.223	

Hull & Associates Sample I.D. AD10563 (continued)
Page: 4
February 19, 1999

Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
0.267 mg/L Terphenyl-D14	0.276	
0.267 mg/L 2,4,6-Tribromophenol	0.094	

Data for TCLP HERBICIDES mg/L:

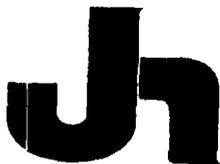
Component Name	Result	Component MDL
2,4-D	Not detected	0.10
2,4,5-TP (SILVEX)	Not detected	0.02

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 19, 1999

To: Hull & Associates
3401 Glendale Ave.. Suite 300
Toledo, Ohio 43614
ATTN: Mr. Bill Petruzzi

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AD10564 Location code: HULLKMC
Project account code: 196
Location Description: KMC001-CP-003-392T
Sample collector: CLIENT Sample collection date: 02/16/99
Lab submittal date: 02/16/99 Time: 15:01
Received by: RS Validated by: FD

Parameter: pH @ 25 DEG C. 20g+20ml @ 60 min
Method reference: EPA9045
Result: 7.68 Std. MDL or sensitivity: 1.00
Date started: 02/17/99 Date finished: 02/17/99
Time started: Analyst: JC

Parameter: CYANIDE
Method reference: 4500-C/335.3 Unit: mg/kg
Result: Not detected MDL or sensitivity: 1.0
Date started: 02/17/99 Date finished: 02/17/99
Time started: Analyst: JC

Parameter: IGNITABILITY
Method reference: 40CFR261.21 Unit:
Result: See comment MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/17/99
Time started: Analyst: JC

Parameter: SULFIDE, REACTIVE
Method reference: SW846IC77342 Unit: mg H2S/kg
Result: Not detected MDL or sensitivity: 50
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: CF

Parameter: PCB IN RESIDUE
Method reference: SW846 8080 Unit: mg/kg
Result: see below
Date started: 02/16/99 Date finished: 02/17/99
Time started: Analyst: JR

February 19, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/16/99 Date finished: 02/17/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/16/99 Date finished: 02/17/99
Time started: Analyst: ND

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: JH

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/17/99 Date finished: 02/17/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: TH

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.3	0.2

February 19, 1999

Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
g-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04
2,4,5--TRICHLOROPHENOL	Not detected	0.4
2,4,6--TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.214	
0.267 mg/L 2-Fluorophenol	0.232	
0.267 mg/L Nitrobenzene-D5	0.295	
0.267 mg/L Phenol-D6	0.212	

Hull & Associates Sample I.D. AD10564 (continued)
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Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
0.267 mg/L Terphenyl-D14	0.271	
0.267 mg/L 2,4,6-Tribromophenol	0.124	

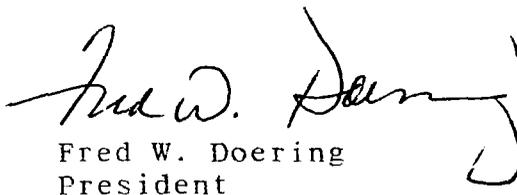
Data for TCLP HERBICIDES mg/L:

Component Name	Result	Component MDL
2,4-D	Not detected	0.10
2,4,5-TP (SILVEX)	Not detected	0.02

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 19, 1999

To: Hull & Associates
3401 Glendale Ave., Suite 300
Toledo, Ohio 43614
ATTN: Mr. Bill Petruzzi

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AD10565	Location code: HULLKMC
Project account code: 196	
Location Description: KMC001-CP-004-392T	
Sample collector: CLIENT	Sample collection date: 02/16/99
Lab submittal date: 02/16/99	Time: 15:01
Received by: RS	Validated by: FD

Parameter: pH @ 25 DEG C. 20g+20ml @ 60 min	
Method reference: EPA9045	
Result: 7.69 Std.	MDL or sensitivity: 1.00
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: CYANIDE	
Method reference: 4500-C/335.3	Unit: mg/kg
Result: Not detected	MDL or sensitivity: 1.0
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: IGNITABILITY	
Method reference: 40CFR261.21	Unit:
Result: See comment	MDL or sensitivity:
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: SULFIDE, REACTIVE	
Method reference: SW846IC77342	Unit: mg H2S/kg
Result: Not detected	MDL or sensitivity: 50
Date started: 02/18/99	Date finished: 02/18/99
Time started:	Analyst: CF

Parameter: PCB IN RESIDUE	
Method reference: SW846 8080	Unit: mg/kg
Result: see below	
Date started: 02/16/99	Date finished: 02/17/99
Time started:	Analyst: JR

February 19, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/16/99 Date finished: 02/17/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/16/99 Date finished: 02/17/99
Time started: Analyst: ND

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: JH

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPAS270 Unit: mg/L
Result: see below
Date started: 02/17/99 Date finished: 02/17/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPAS150 Unit: mg/L
Result: see below
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: TH

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.3	0.2

February 19, 1999

Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
g-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04
2,4,5-TRICHLOROPHENOL	Not detected	0.4
2,4,6-TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.158	
0.267 mg/L 2-Fluorophenol	0.247	
0.267 mg/L Nitrobenzene-D5	0.284	
0.267 mg/L Phenol-D6	0.208	

Hull & Associates Sample I.D. AD10565 (continued)
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Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
0.267 mg/L Terphenyl-D14	0.238	
0.267 mg/L 2,4,6-Tribromophenol	0.103	

Data for TCLP HERBICIDES mg/L:

Component Name	Result	Component MDL
2,4-D	Not detected	0.10
2,4,5-TP (SILVEX)	Not detected	0.02

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President

February 25, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: ND

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/24/99 Date finished: 02/25/99
Time started: Analyst: JH

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/19/99 Date finished: 02/19/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/19/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/22/99 Date finished: 02/23/99
Time started: Analyst: JR

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.3	0.2

February 25, 1999

Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROBENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02
Surrogate results, HALL detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.478	
0.600 mg/L 1,4-Dichlorobutane	0.495	
0.600 mg/L 2-Br-1-chlorobenzene	0.469	
Surrogate results, PID detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.601	
0.600 mg/L 2-Br-1-chlorobenzene	0.523	

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROBENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROBENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
g-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROBENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04

Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
2,4,5-TRICHLOROPHENOL	Not detected	0.4
2,4,6-TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.152	
0.267 mg/L 2-Fluorophenol	0.187	
0.267 mg/L Nitrobenzene-D5	0.189	
0.267 mg/L Phenol-D6	0.158	
0.267 mg/L Terphenyl-D14	0.336	
0.267 mg/L 2,4,6-Tribromophenol	0.159	

Data for TCLP HERBICIDES mg/L:

Component Name	Result	Component MDL
2,4-D	Not detected	0.10
2,4,5-TP (SILVEX)	Not detected	0.02
Surrogate result:	---	
0.085 mg/L 2,4-Dichlorophenylacetic acid	0.081	

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 25, 1999

To: Hull & Associates
3401 Glendale Ave., Suite 300
Toledo, Ohio 43614
ATTN: Mr. Bill Petruzzi

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AD10595	Location code: HULLKMC
Project account code: 196	
Location Description: KMC001-QP-011-392T	
Sample collector: CLIENT	Sample collection date: 02/16/99
Lab submittal date: 02/16/99	Time: 16:35
Received by: RS	Validated by: FD

Parameter: pH @ 25 DEG C. 20g+20ml @ 60 min	
Method reference: EPA9045	
Result: 7.63 Std.	MDL or sensitivity: 1.00
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: CYANIDE	
Method reference: 4500-C/335.3	Unit: mg/kg
Result: Not detected	MDL or sensitivity: 1.0
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: IGNITABILITY	
Method reference: 40CFR261.21	Unit:
Result: See comment	MDL or sensitivity:
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: SULFIDE, REACTIVE	
Method reference: SW846IC77342	Unit: mg H ₂ S/kg
Result: Not detected	MDL or sensitivity: 50
Date started: 02/18/99	Date finished: 02/18/99
Time started:	Analyst: CF

Parameter: PCB IN RESIDUE	
Method reference: SW846 8080	Unit: mg/kg
Result: see below	
Date started: 02/17/99	Date finished: 02/18/99
Time started:	Analyst: JR

February 25, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/18/99 Date finished: 02/19/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: ND

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/24/99 Date finished: 02/24/99
Time started: Analyst: AA

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/22/99 Date finished: 02/22/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/22/99 Date finished: 02/23/99
Time started: Analyst: JR

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.3	0.2

February 25, 1999

Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROBENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02
Surrogate results, HALL detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.505	
0.600 mg/L 1,4-Dichlorobutane	0.632	
0.600 mg/L 2-Br-1-chlorobenzene	0.595	
Surrogate results, PID detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.611	
0.600 mg/L 2-Br-1-chlorobenzene	0.594	

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROBENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROBENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
γ-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROBENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04

Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
2.4.5-TRICHLOROPHENOL	Not detected	0.4
2.4.6-TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.157	
0.267 mg/L 2-Fluorophenol	0.212	
0.267 mg/L Nitrobenzene-D5	0.236	
0.267 mg/L Phenol-D6	0.205	
0.267 mg/L Terphenyl-D14	0.198	
0.267 mg/L 2.4.6-Tribromophenol	0.111	

Data for TCLP HERBICIDES mg/L:

Component Name	Result	Component MDL
2.4-D	Not detected	0.10
2.4.5-TP (SILVEX)	Not detected	0.02
Surrogate result:	---	
0.085 mg/L 2.4-Dichlorophenylacetic acid	0.083	

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 25, 1999

To: Hull & Associates
3401 Glendale Ave., Suite 300
Toledo, Ohio 43614
ATTN: Mr. Bill Petruzzi

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AD10596	Location code: HULLKMC
Project account code: 196	
Location Description: KMC001-OP-012-392T	
Sample collector: CLIENT	Sample collection date: 02/16/99
Lab submittal date: 02/16/99	Time: 16:35
Received by: RS	Validated by: FD

Parameter: pH @ 25 DEG C. 20g+20ml @ 60 min	
Method reference: EPA9045	
Result: 7.63 Std.	MDL or sensitivity: 1.00
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: CYANIDE	
Method reference: 4500-C/335.3	Unit: mg/kg
Result: Not detected	MDL or sensitivity: 1.0
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: IGNITABILITY	
Method reference: 40CFR261.21	Unit:
Result: See comment	MDL or sensitivity:
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: SULFIDE. REACTIVE	
Method reference: SW846IC77342	Unit: mg H ₂ S/kg
Result: Not detected	MDL or sensitivity: 50
Date started: 02/18/99	Date finished: 02/18/99
Time started:	Analyst: CF

Parameter: PCB IN RESIDUE	
Method reference: SW846 8080	Unit: mg/kg
Result: see below	
Date started: 02/17/99	Date finished: 02/18/99
Time started:	Analyst: JR

February 25, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: ND

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/24/99 Date finished: 02/24/99
Time started: Analyst: AA

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/19/99 Date finished: 02/19/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/22/99 Date finished: 02/23/99
Time started: Analyst: JR

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.3	0.2

February 25, 1999

Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROBENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02
Surrogate results, HALL detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.558	
0.600 mg/L 1,4-Dichlorobutane	0.606	
0.600 mg/L 2-Br-1-chlorobenzene	0.518	
Surrogate results, PID detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.595	
0.600 mg/L 2-Br-1-chlorobenzene	0.534	

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROBENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROBENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
g-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROBENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04

Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
2,4,5-TRICHLOROPHENOL	Not detected	0.4
2,4,6-TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.145	
0.267 mg/L 2-Fluorophenol	0.218	
0.267 mg/L Nitrobenzene-D5	0.219	
0.267 mg/L Phenol-D6	0.204	
0.267 mg/L Terphenyl-D14	0.220	
0.267 mg/L 2,4,6-Tribromophenol	0.105	

Data for TCLP HERBICIDES mg/L:

Component Name	Result	Component MDL
2,4-D	Not detected	0.10
2,4,5-TP (SILVEX)	Not detected	0.02
Surrogate result:	---	
0.085 mg/L 2,4-Dichlorophenylacetic acid	0.080	

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 25, 1999

To: Hull & Associates
3401 Glendale Ave.. Suite 300
Toledo, Ohio 43614
ATTN: Mr. Bill Petruzzi

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AD10597	Location code: HULLKMC
Project account code: 196	
Location Description: KMC001-QP-013-392T	
Sample collector: CLIENT	Sample collection date: 02/16/99
Lab submittal date: 02/16/99	Time: 16:35
Received by: RS	Validated by: FD

Parameter: pH @ 25 DEG C. 20g+20ml @ 60 min	
Method reference: EPA9045	
Result: 7.50 Std.	MDL or sensitivity: 1.00
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: CYANIDE	
Method reference: 4500-C/335.3	Unit: mg/kg
Result: Not detected	MDL or sensitivity: 1.0
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: IGNITABILITY	
Method reference: 40CFR261.21	Unit:
Result: See comment	MDL or sensitivity:
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: SULFIDE. REACTIVE	
Method reference: SW846IC77342	Unit: mg H2S/kg
Result: Not detected	MDL or sensitivity: 50
Date started: 02/18/99	Date finished: 02/18/99
Time started:	Analyst: CF

Parameter: PCB IN RESIDUE	
Method reference: SW846 8080	Unit: mg/kg
Result: see below	
Date started: 02/17/99	Date finished: 02/18/99
Time started:	Analyst: JR

February 25, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/18/99 Date finished: 02/19/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: ND

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/24/99 Date finished: 02/24/99
Time started: Analyst: AA

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/22/99 Date finished: 02/22/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/22/99 Date finished: 02/23/99
Time started: Analyst: JR

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.3	0.2

February 25, 1999

Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROBENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02
Surrogate results, HALL detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.482	
0.600 mg/L 1,4-Dichlorobutane	0.534	
0.600 mg/L 2-Br-1-chlorobenzene	0.511	
Surrogate results, PID detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.600	
0.600 mg/L 2-Br-1-chlorobenzene	0.606	

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROBENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROBENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
g-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROBENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04

Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
2,4,5-TRICHLOROPHENOL	Not detected	0.4
2,4,6-TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.179	
0.267 mg/L 2-Fluorophenol	0.234	
0.267 mg/L Nitrobenzene-D5	0.234	
0.267 mg/L Phenol-D6	0.208	
0.267 mg/L Terphenyl-D14	0.255	
0.267 mg/L 2,4,6-Tribromophenol	0.104	

Data for TCLP HERBICIDES mg/L:

Component Name	Result	Component MDL
2,4-D	Not detected	0.10
2,4,5-TP (SILVEX)	Not detected	0.02
Surrogate result:	---	
0.085 mg/L 2,4-Dichlorophenylacetic acid	0.075	

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 25, 1999

To: Hull & Associates
3401 Glendale Ave., Suite 300
Toledo, Ohio 43614
ATTN: Mr. Bill Petruzzi

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AD10598	Location code: HULLKMC
Project account code: 196	
Location Description: KMC001-CDP-001-392T	
Sample collector: CLIENT	Sample collection date: 02/16/99
Lab submittal date: 02/16/99	Time: 16:35
Received by: RS	Validated by: FD

Parameter: pH @ 25 DEG C. 20g+20ml @ 60 min	
Method reference: EPA9045	
Result: 8.48 Std.	MDL or sensitivity: 1.00
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: CYANIDE	
Method reference: 4500-C/335.3	Unit: mg/kg
Result: Not detected	MDL or sensitivity: 1.0
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: IGNITABILITY	
Method reference: 40CFR261.21	Unit:
Result: See comment	MDL or sensitivity:
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: SULFIDE. REACTIVE	
Method reference: SW846IC77342	Unit: mg H ₂ S/kg
Result: Not detected	MDL or sensitivity: 50
Date started: 02/22/99	Date finished: 02/22/99
Time started:	Analyst: CF

Parameter: PCB IN RESIDUE	
Method reference: SW846 8080	Unit: mg/kg
Result: see below	
Date started: 02/17/99	Date finished: 02/18/99
Time started:	Analyst: JR

February 25, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/18/99 Date finished: 02/19/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/18/99 Date finished: 02/19/99
Time started: Analyst: ND

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/24/99 Date finished: 02/24/99
Time started: Analyst: AA

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/22/99 Date finished: 02/22/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/19/99 Date finished: 02/19/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/23/99 Date finished: 02/24/99
Time started: Analyst: JR

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	1.1	0.2

February 25, 1999

Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLORO BENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLORO BENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02
Surrogate results, HALL detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.497	
0.600 mg/L 1,4-Dichlorobutane	0.551	
0.600 mg/L 2-Br-1-chlorobenzene	0.505	
Surrogate results, PID detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.615	
0.600 mg/L 2-Br-1-chlorobenzene	0.640	

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLORO BENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLORO BENZENE	Not detected	0.05
HEXACHLORO BUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
g-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITRO BENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04

Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
2.4.5-TRICHLOROPHENOL	Not detected	0.4
2.4.6-TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.166	
0.267 mg/L 2-Fluorophenol	0.218	
0.267 mg/L Nitrobenzene-D5	0.204	
0.267 mg/L Phenol-D6	0.199	
0.267 mg/L Terphenyl-D14	0.219	
0.267 mg/L 2.4.6-Tribromophenol	0.092	

Data for TCLP HERBICIDES mg/L:

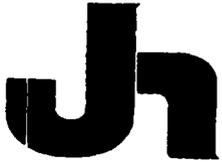
Component Name	Result	Component MDL
2.4-D	Not detected	0.10
2.4.5-TP (SILVEX)	Not detected	0.02
Surrogate result:	---	
0.170 mg/L 2.4-Dichlorophenylacetic acid	0.138	

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 25, 1999

To: Hull & Associates
3401 Glendale Ave., Suite 300
Toledo, Ohio 43614
ATTN: Mr. Bill Petruzzi

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AD10599	Location code: HULLKMC
Project account code: 196	
Location Description: KMC001-CDP-002-392T	
Sample collector: CLIENT	Sample collection date: 02/16/99
Lab submittal date: 02/16/99	Time: 16:35
Received by: RS	Validated by: FD

Parameter: pH @ 25 DEG C. 20g+20ml @ 60 min	
Method reference: EPA9045	
Result: 8.77 Std.	MDL or sensitivity: 1.00
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: CYANIDE	
Method reference: 4500-C/335.3	Unit: mg/kg
Result: Not detected	MDL or sensitivity: 1.0
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: IGNITABILITY	
Method reference: 40CFR261.21	Unit:
Result: See comment	MDL or sensitivity:
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: SULFIDE. REACTIVE	
Method reference: SW846IC77342	Unit: mg H2S/kg
Result: Not detected	MDL or sensitivity: 50
Date started: 02/22/99	Date finished: 02/22/99
Time started:	Analyst: CF

Parameter: PCB IN RESIDUE	
Method reference: SW846 8080	Unit: mg/kg
Result: see below	
Date started: 02/17/99	Date finished: 02/18/99
Time started:	Analyst: JR

February 25, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/18/99 Date finished: 02/19/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/18/99 Date finished: 02/19/99
Time started: Analyst: ND

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/24/99 Date finished: 02/24/99
Time started: Analyst: AA

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/22/99 Date finished: 02/22/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/19/99 Date finished: 02/19/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/23/99 Date finished: 02/24/99
Time started: Analyst: JR

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.6	0.2

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Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02
Surrogate results. HALL detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.489	
0.600 mg/L 1,4-Dichlorobutane	0.513	
0.600 mg/L 2-Br-1-chlorobenzene	0.485	
Surrogate results. PID detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.585	
0.600 mg/L 2-Br-1-chlorobenzene	0.583	

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
g-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROBENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04

Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
2.4.5-TRICHLOROPHENOL	Not detected	0.4
2.4.6-TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.210	
0.267 mg/L 2-Fluorophenol	0.260	
0.267 mg/L Nitrobenzene-D5	0.291	
0.267 mg/L Phenol-D6	0.201	
0.267 mg/L Terphenyl-D14	0.253	
0.267 mg/L 2.4.6-Tribromophenol	0.089	

Data for TCLP HERBICIDES mg/L:

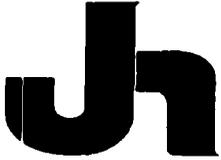
Component Name	Result	Component MDL
2.4-D	Not detected	0.10
2.4.5-TP (SILVEX)	Not detected	0.02
Surrogate result:	---	
0.085 mg/L 2.4-Dichlorophenylacetic acid	0.079	

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President



JONES & HENRY LABORATORIES, INC. / 2567 TRACY ROAD, NORTHWOOD, OHIO 43619 / (419) 666-0411

February 25, 1999

To: Hull & Associates
3401 Glendale Ave., Suite 300
Toledo, Ohio 43614
ATTN: Mr. Bill Petruzzi

The following analytical results have been obtained for the indicated sample which was submitted to this laboratory:

Sample I.D. AD10600	Location code: HULLKMC
Project account code: 196	
Location Description: KMC001-SPB-001-392T	
Sample collector: CLIENT	Sample collection date: 02/16/99
Lab submittal date: 02/16/99	Time: 16:35
Received by: RS	Validated by: FD

Parameter: pH @ 25 DEG C. 20g+20ml @ 60 min	
Method reference: EPA9045	
Result: 9.99 Std.	MDL or sensitivity: 1.00
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: CYANIDE	
Method reference: 4500-C/335.3	Unit: mg/kg
Result: Not detected	MDL or sensitivity: 1.0
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: IGNITABILITY	
Method reference: 40CFR261.21	Unit:
Result: See comment	MDL or sensitivity:
Date started: 02/17/99	Date finished: 02/17/99
Time started:	Analyst: JC

Parameter: SULFIDE. REACTIVE	
Method reference: SW846IC77342	Unit: mg H2S/kg
Result: Not detected	MDL or sensitivity: 50
Date started: 02/22/99	Date finished: 02/22/99
Time started:	Analyst: CF

Parameter: PCB IN RESIDUE	
Method reference: SW846 8080	Unit: mg/kg
Result: see below	
Date started: 02/17/99	Date finished: 02/18/99
Time started:	Analyst: JR

February 25, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: ND

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/24/99 Date finished: 02/24/99
Time started: Analyst: AA

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/19/99 Date finished: 02/19/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/23/99 Date finished: 02/24/99
Time started: Analyst: JR

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.9	0.2

February 25, 1999

Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROBENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02
Surrogate results. HALL detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.447	
0.600 mg/L 1,4-Dichlorobutane	0.543	
0.600 mg/L 2-Br-1-chlorobenzene	0.450	
Surrogate results. PID detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.589	
0.600 mg/L 2-Br-1-chlorobenzene	0.549	

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROBENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROBENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
g-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROBENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04

Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
2.4.5--TRICHLOROPHENOL	Not detected	0.4
2.4.6--TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.163	
0.267 mg/L 2-Fluorophenol	0.238	
0.267 mg/L Nitrobenzene-D5	0.258	
0.267 mg/L Phenol-D6	0.201	
0.267 mg/L Terphenyl-D14	0.231	
0.267 mg/L 2.4.6-Tribromophenol	0.099	

Data for TCLP HERBICIDES mg/L:

Component Name	Result	Component MDL
2.4-D	Not detected	0.10
2.4.5-TP (SILVEX)	Not detected	0.02
Surrogate result:	---	
0.085 mg/L 2.4-Dichlorophenylacetic acid	0.079	

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President

February 25, 1999

Parameter: TCLP ZERO HEADSPACE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: ND

Parameter: TCLP NON-VOLATILE EXTRACTION

Method reference: EPA 1311 Unit:
Result: Completed MDL or sensitivity:
Date started: 02/17/99 Date finished: 02/18/99
Time started: Analyst: ND

Parameter: TCLP METALS

Method reference: 6010A/7470 Unit: mg/L
Result: see below
Date started: 02/24/99 Date finished: 02/24/99
Time started: Analyst: AA

Parameter: TCLP VOLATILES

Method reference: 80-10.20.15 Unit: mg/L
Result: see below
Date started: 02/22/99 Date finished: 02/22/99
Time started: Analyst: TH

Parameter: TCLP SEMIVOLATILES

Method reference: EPA8270 Unit: mg/L
Result: see below
Date started: 02/18/99 Date finished: 02/18/99
Time started: Analyst: JR

Parameter: TCLP HERBICIDES

Method reference: EPA8150 Unit: mg/L
Result: see below
Date started: 02/23/99 Date finished: 02/24/99
Time started: Analyst: JR

Data for PCB IN RESIDUE mg/kg:

Component Name	Result	Component MDL
PCB 1016	Not detected	1.0
PCB 1221	Not detected	1.0
PCB 1232	Not detected	1.0
PCB 1242	Not detected	1.0
PCB 1248	Not detected	1.0
PCB 1254	Not detected	1.0
PCB 1260	Not detected	1.0

Data for TCLP METALS mg/L:

Component Name	Result	Component MDL
ARSENIC	Not detected	0.1
BARIUM	0.2	0.2

February 25, 1999

Data for TCLP METALS (continued):

Component Name	Result	Component MDL
CADMIUM	Not detected	0.01
CHROMIUM	Not detected	0.1
LEAD	Not detected	0.1
MERCURY	Not detected	0.004
SELENIUM	Not detected	0.1
SILVER	Not detected	0.1

Data for TCLP VOLATILES mg/L:

Component Name	Result	Component MDL
BENZENE	Not detected	0.05
CARBON TETRACHLORIDE	Not detected	0.05
CHLOROBENZENE	Not detected	0.05
CHLOROFORM	Not detected	0.05
1,4-DICHLOROBENZENE	Not detected	0.05
1,2-DICHLOROETHANE	Not detected	0.05
1,1-DICHLOROETHENE	Not detected	0.05
METHYL ETHYL KETONE	Not detected	0.05
TETRACHLOROETHENE	Not detected	0.05
TRICHLOROETHENE	Not detected	0.05
VINYL CHLORIDE	Not detected	0.02
Surrogate results. HALL detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.470	
0.600 mg/L 1,4-Dichlorobutane	0.588	
0.600 mg/L 2-Br-1-chlorobenzene	0.604	
Surrogate results. PID detector:	---	
0.600 mg/L 1-Cl-2-fluorobenzene	0.621	
0.600 mg/L 2-Br-1-chlorobenzene	0.676	

Data for TCLP SEMIVOLATILES mg/L:

Component Name	Result	Component MDL
CHLORDANE	Not detected	0.02
o-CRESOL	Not detected	0.4
m+p-CRESOL	Not detected	0.4
1,4-DICHLOROBENZENE	Not detected	0.2
2,4-DINITROTOLUENE	Not detected	0.07
ENDRIN	Not detected	0.005
HEPTACHLOR	Not detected	0.004
HEPTACHLOR EPOXIDE	Not detected	0.004
HEXACHLOROBENZENE	Not detected	0.05
HEXACHLOROBUTADIENE	Not detected	0.1
HEXACHLOROETHANE	Not detected	0.1
γ-BHC (LINDANE)	Not detected	0.01
METHOXYCHLOR	Not detected	0.01
NITROBENZENE	Not detected	0.1
PENTACHLOROPHENOL	Not detected	0.4
PYRIDINE	Not detected	0.2
TOXAPHENE	Not detected	0.04

Data for TCLP SEMIVOLATILES (continued):

Component Name	Result	Component MDL
2.4.5-TRICHLOROPHENOL	Not detected	0.4
2.4.6-TRICHLOROPHENOL	Not detected	0.4
Surrogate results:	---	
0.267 mg/L 2-Fluorobiphenyl	0.182	
0.267 mg/L 2-Fluorophenol	0.264	
0.267 mg/L Nitrobenzene-D5	0.273	
0.267 mg/L Phenol-D6	0.240	
0.267 mg/L Terphenyl-D14	0.238	
0.267 mg/L 2.4.6-Tribromophenol	0.096	

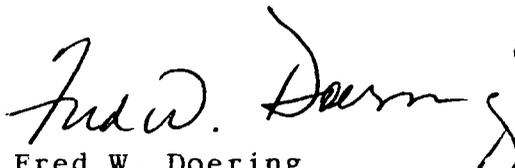
Data for TCLP HERBICIDES mg/L:

Component Name	Result	Component MDL
2.4-D	Not detected	0.10
2.4.5-TP (SILVEX)	Not detected	0.02
Surrogate result:	---	
0.085 mg/L 2.4-Dichlorophenylacetic acid	0.084	

Sample comments:

This sample does not ignite in the presence of an open butane flame.

If there are any questions regarding this data, please call.


Fred W. Doering
President